

REMARKS

Claim Objections

The foregoing amendment overcomes the Examiner's objection to claim 38 to make it dependent on claim 37. Applicant thanks the Examiner for catching this error.

Claim Rejections – 35 USC § 102

Claims 11-13 have been rejected under 35 USC 102(b) as being anticipated by Senapati '926. This rejection is respectfully traversed.

Senapati teaches a heating chamber (furnace 14) having an inlet (open top) and an outlet (die 16). When the piston 18 is removed, a solid glass preform 13 may be placed in the chamber 14. The preform 13 melted in the chamber 14 and is pushed by a piston 18 through the die 16.

Claims 11 and 12 have been amended to make clear that the inlet to the heating chamber comprises a heated cone having a diameter less than the diameter of the solid glass rod, the cone melting the exterior of the rod and forming a molten glass seal at the inlet. The open top of Senapati's chamber 14 cannot possibly be a heated cone "having a diameter less than the diameter of the solid glass rod, the cone melting the exterior of the rod and forming a molten glass seal at the inlet." The die 16 of Senapati cannot be both the outlet of the heating chamber (as it is) and the inlet of that same chamber (which it is not). Nothing in Senapati or any of the other references of record, taken alone or together, suggests the construction set out in claims 11-13.

Claims 27 and 30 have been rejected under 35 USC 102(b) as being anticipated by Coucoulas '771.

Claim 27 has been amended to recite "the inner forming tube being connected to a source of pressure or vacuum, the pressure or vacuum being controllable to affect at least one dimension of the shape." Of course, the claim is broad enough to include the inner forming tube's being alternatively connected to a source of pressure and to a source of vacuum.

Nothing in Coucoulas suggests the construction of claim 27. The mandrel 15 of Coucoulas is solid, not hollow, and could not be connected to a source of pressure or vacuum.

Claim Rejections – 35 USC § 103

Claims 14-15 have been rejected under 35 USC 103(a) as being unpatentable over Senapati '926.

The Examiner refers to the variation in the diameter of the feed rod as a "result effective variable." MPEP 2144.05 ("Obviousness of Ranges") says "A particular parameter must first be recognized as a result-effective variable, i.e., a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation." In the present case, variations in the diameter of the rod have not been shown to be "result effective." They are, rather, merely descriptive of commercially available glass rod, which is neither perfectly round nor perfectly sized. In a system such as Senapati's, there is no indication that variations in the

size of the preform 13 would have any effect on the process or on the size or shape of the glass rod 20 formed by the process. Nothing in Senapati suggests either the problem or the solution addressed by claims 14 and 15.

Claims 28 and 29 have been rejected under 35 USC 103(a) as being unpatentable over Coucoulas '771 in view of Stong '479. These claims are dependent on claim 27, discussed above, and are believed to be patentable over the cited art for the reasons given above. In particular, with respect to claim 28, both Coucoulas and Stong teach a solid mandrel, rather than a hollow inner forming tube as called for in these claims.

Claims 31 and 32 have been rejected under 35 USC 103(a) as being unpatentable over Schmitt '442 in view of Shofner '574. Neither Schmitt nor Shofner discloses an "apparatus for feeding glass rod sections" as called for in these claims. Schmitt is concerned with pulling a continuous glass tube draw-down, and Shofner is concerned with an alarm for signaling breaks in a continuous glass fiber. Neither reference suggests a problem with handling glass rod sections, and neither suggests even vaguely a "mechanism for varying the bias of the at least one feed drive in response to the sensor to protect the rod ends" as called for in these claims.

Claims 37 and 38 have been rejected under 35 USC 103(a) as being unpatentable over Senapati '926 in view of Bogdahn '428. These claims call for a "method of controlling the rate at which a solid rod of heat-softenable material is fed through a heated restriction" where the restriction "is the inlet of a melting

chamber,” the method comprising determining changes in temperature at the restriction and controlling the feed rate of the rod in response. Nothing in either reference has anything to do with this method. Senapati optically measures a diameter of his glass rod 20 and adjusts the force of his piston 18 or the speed of his pulling system 22 accordingly. Senapati does not have a restriction forming the inlet of a melting chamber. Bogdahn is concerned with a redraw process in which an elongated component of glass is drawn from a blank. Bogdahn’s device and method involve no restriction at all. Bogdahn simply measures the temperature at a softened region of his blank (the “drawing bulb”) and controls the draw rate accordingly. Nothing in either reference suggests even a restriction at an inlet of a melting chamber, let alone any reason for measuring the temperature at such a restriction.

Newly added claims 64-67 are dependent on claims 11 and 12 and are believed to be allowable with them. These claims also add features which, in the combinations claimed, are neither shown nor suggested by the prior art.

Newly added claims 68 and 69 are written along the lines of claim 12, with further limitations. It is believed that these claims are patentable for the same reasons set out above.

It is believed that the claims currently being presented are patentable over the prior art. It is respectfully requested that the case be passed to issue. Should the Examiner not believe the claims are now in condition for allowance, applicant requests a telephone call to his undersigned attorney (314-238-2400,

extension 426) to arrange a personal interview with the Examiner and the Examiner's SPE.

Respectfully submitted,

/JPhilipPolster/

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